

The specimens I have examined were mostly full-grown slugs; and after thirteen dissections the only difference I was able to discover was one similar to that pointed out above by Dr. Scharff, viz. in the point of the origin of the retractor muscle of the penis. The reproductive, digestive, and nervous systems all support Simroth's statement that this slug is but a colour-variation of *L. maximus*.

Any malacologist possessing a knowledge of the colour-variations of even our British slugs cannot, I think, consistently, and certainly not scientifically, found species upon the same. Jourdain * has stated that such differences in the Limacidae as general form, coloration, structure of the shell, jaw, &c. are characters which vary with age and habitat, and that for specific distinction recourse must be made to the internal anatomy.

Of late I have frequently drawn attention † to the importance of a knowledge of the anatomy of the Mollusca, and it is to be regretted that Mr. Roebuck should, in the face of statements from able anatomists such as I have mentioned, persist in confusing an already very complicated subject.

LIV.—*Descriptions of Three new Species of Butterflies captured by Mr. D. Cator in British North Borneo, in the Collection of Mr. Grose Smith.* By H. GROSE SMITH.

Papilio Catoris.

Male.—*Upperside.* Both wings white, with black veins and markings. Anterior wings with four irregular oblique bars crossing the cell and extending to the costal margin, the first and third bars interrupted; beyond the cell is a large black irregular patch extending above the lower discoidal nervule and below the uppermost median nervule; broad black streaks extend along the middle and lower median nervules and the submedian nervule, the two lowest streaks being connected by a large black quadrangular spot; between the veins is a curved submarginal row of conical black spots, the uppermost being the largest and protracted inwardly. Eight triangular black spots at the ends of the veins, connected with each other on the margin, the two uppermost at the apex being confluent; a black line on the inner margin widest near the base.

* 'Comptes Rendus,' vol. ci. p. 963 (1885).

† Cf. Ann. & Mag. Nat. Hist. vol. ix. p. 308 (1892); 'The Slugs of the British Isles,' p. 1 (1892); 'The Conchologist,' vol. ii. p. 56 (1892).

Posterior wings with the veins from the base to near the submarginal row of spots broadly black; the cell is crossed from near the middle of the subcostal nervure to near the end of the median nervure by a broad black line; between the uppermost and middle median nervules, at their junction with the median nervure below the cell, is a large oval black spot; the broad black streaks along the lowest median nervule and the submedian nervure curve towards and join each other at their outer end, forming a loop; there is a submarginal row of six subconical spots, that nearest the costal margin the longest and largest, the spot nearest the anal angle rectangular; at the anal angle is an irregular subcaudate black bar, surmounted by a pale yellowish space, above which is a narrow black line; the ends of the veins are broadly tipped with greyish-black markings, which join each other and form an irregular grey band on the margin, which is emarginate.

The underside resembles the upperside, but the marginal spots are smaller and not connected with each other.

The *female* resembles the male.

Expanse of wings $4\frac{1}{2}$ inches.

Hab. Pingas and Penungah, North-east Borneo.

This remarkable butterfly, which is named after its captor, is intermediate between *P. idaeoides*, Hewitson, and *P. Deleserti*, Guérin.

Appias flavius.

Male.—*Upperside.* Resembles *A. nero*, Fabr., but is more yellowish orange, the veins are the same colour as the wings, not black as in *A. nero*, nor is there any dusky shading towards the margins.

Underside. Anterior wings paler, and posterior wings yellower than on the upperside. The dusky indistinct submarginal bands which cross the disk of both wings of *A. nero* are absent on the anterior wings, and on the posterior wings are represented by a dusky patch beyond the cell.

Female.—*Upperside.* Both wings paler yellowish orange than in the same sex of *A. nero*. On the anterior wings the discocellular nervules, and the median nervure from the base to its junction with the lowest median nervule are narrowly black, all the rest of the veins in the centre of the wings being flavous; the sinuate dark band which crosses the disk of the female *nero* is in *A. flavius* narrower, and not interrupted between the lowest median nervule and the submedian nervure; the space towards the base of both wings which is irrorated with dusky scales is more restricted than in the female *nero*.

Expanse of wings $2\frac{1}{2}$ inches.

Hab. Taganac Island, North-east Borneo.

From a good series of this insect, in which the characteristics above described are uniform, I am induced to consider this variety as worthy of description. The ordinary form of *A. nero* was not captured in the island. Some of the male specimens are more red than others, a variation which also occurs with *A. nero*, but in all of them the veins are the same colour as the rest of the wings. In coloration it approaches the variety of *A. nero* from the Island of Palawan, but it is less bright, though brighter than *A. zarinda*, Boisduval, from Celebes.

Elymnias borneensis.

Male.—*Upperside.* Anterior wings dark brown, brightly suffused with purple, with three pale blue elongate spots situate between the discoidal and upper median nervules; the purple reflection extends to the posterior angle, but not quite to the apex of the wings. Posterior wings brown, slightly suffused with purple over the whole extent of the wings.

Underside. Both wings resemble those of *penanga* and *sumatrana*, but are darker, and on the posterior wings there is no submarginal row of spots.

Female.—*Upperside.* Anterior wings greyish brown, faintly with dull blue at the base; an oblique irregular ill-defined greyish-white band from the middle of the costal margin to near the middle of the hind margin, and a similar band extending into the cell, about its middle, and over the space between the submedian nervure nearly as far as the middle median nervule. Posterior wings greyish white, slightly tinged with pink, with a broad greyish-brown streak from the base along the upper subcostal nervule and thence round the outer margin, where on its inner edge the streak is sinuate on the veins.

Underside. Both wings brown, irregularly mottled with grey, the grey bands and patch on the upperside being indistinctly represented.

Expanse of wings $2\frac{3}{8}$ inches.

Hab. North-east Borneo.

This species is near to *E. penanga*, Westwood (*mehida*, Hew.), but the male differs in having only three instead of five blue spots on the anterior wings, and the female is quite distinct from the female of that species.

In the Hewitson Collection at the British Museum the male of this species is placed with specimens of *E. mehida*, and the female is unnamed.